

Amendments to the Claims

Please amend the claims as follows. This listing of claims will replace all prior versions and listing of claims in the application.

Claim 1 (Currently Amended). A system for detection of an object in an area in space ~~comprised of an image generated by waves in one of a visible and an invisible spectral range~~, the system comprising:

an imager for projecting ~~configured such that~~ an original holographic image is projected onto the area;

a reception device ~~that registers for sensing~~ the imaged area, wherein the reception device is specifically balanced for a spectral range corresponding to the waves generated by the image, and wherein the imager is for projecting a reference beam and an object beam that interfere at a sensing surface of the reception device; and

a computer in communication with the reception device and the imager, wherein the computer is for determining ~~configured with a recognition algorithm~~, wherein the imaged area is ~~recreated on the reception device~~ and a difference pattern between an image generation interference pattern for the original holographic image and an interference pattern for the an image received is compared using the recognition algorithm sensed by the reception device, and wherein the comparison difference pattern is used to project a modified holographic image that represents a change in the original

holographic image that results from an object interacting with the original holographic image.

Claim 2 (Currently Amended). The system according to claim 1, wherein the imager is ~~one of~~ comprises a reflective solid state imaging device ~~and a transmissive solid state imaging device~~.

Claim 3 (Original). The system according to claim 1, wherein the reception device is a solid state sensing device.

Claim 4 (Previously Presented). The system according to claim 1, wherein the original holographic image represents one of an input terminal, a keyboard, a pointing device, a game, and a musical instrument.

Claims 5-12 (Cancelled).

Claim 13 (New) The system according to claim 1, wherein the imager comprises a transmissive solid state imaging device.

Claim 14 (New) The system according to claim 1, wherein the sensor comprises a CCD video sensor.

Claim 15 (New). The system according to claim 1, wherein the original holographic image comprises an image of a steering wheel.

Claim 16 (New) A method comprising:

projecting an original holographic image from an imager onto an area in a space, wherein projecting the image comprises projecting an reference beam and an object beam;

sensing the imaged area with a reception device, wherein the reference beam and the object beam interfere at a sensing surface of the reception device; and

determining a difference pattern between an interference pattern for the original holographic image and an interference pattern for the image sensed by the reception device; and

modifying the original holographic image projected by the imager based on the determined difference pattern, wherein the modification represents a change in the original holographic image that results from an object interacting with the original holographic image.

Claim 17 (New). The method of claim 16, wherein:

the original holographic image represents a user input device for an object; and the difference between the original holographic image and the interference pattern for the image sensed by the reception device is cause by user interaction with the image of the user input device.

Claim 18 (New) The method of claim 17, wherein the user input device comprises a keyboard.

Claim 19 (New) The method of claim 17, wherein the user input device comprises a steering wheel.

Claim 20 (New) The method of claim 16, wherein determining the difference pattern between the interference pattern for the original holographic image and the interference pattern for the image sensed by the reception device comprises using a feature space analysis to determine the difference pattern.

Claim 21 (New) The method of claim 16, wherein determining the difference pattern between the interference pattern for the original holographic image and the interference pattern for the image sensed by the reception device comprises using a bit mapping to determine the difference pattern.